Movement of water structure strip

This resource accompanies the **Water cycle** infographic in *Education in Chemistry* which can be viewed at: https://rsc.org/3K45Uuz/

Learning objectives

1 Describe how the Sun influences the movement of water on Earth.

2 Explain the movement of water and the processes that occur in the water cycle.

Introduction

The water cycle provides an interesting context for bringing aspects of biology, chemistry and physics together for your students. Pose the long-answer question below. Give your students the opportunity to interrogate the poster and bring their existing knowledge together in small groups. Once they have developed and practiced their explanations together, give them the structure strip to focus their written explanations.

Students should be able to write coherent answers to each question in the structure strip, using information from the poster, their existing understanding and making good use of the keywords.

How to use structure strips

Scaffolding helps students overcome the fear of a blank page. Structure strips provide suitable prompts for a piece of writing. The student sticks the strip into the margin of their exercise book and writes alongside it.

Long-answer question

Explain how water in the Atlantic Ocean can end up in your breakfast cereal.

Answers

Structure strip The water cycle	Model answer
Describe the physical processes involved in the water cycle.	• Water evaporates from the Atlantic Ocean, • condenses in the atmosphere, • then falls back to the ground as precipitation.
Explain how the Sun and temperature changes drive the water cycle.	• Energy from the Sun is absorbed by open water, • increasing the rate of evaporation. • As water vapour rises in the atmosphere, • the temperature drops causing the water to condense.
Describe what happens to water after it has fallen to the ground as precipitation.	• Surface (overground) water can run downhill in streams and rivers, into lakes and back to the oceans. • Water can be absorbed into the ground (ground water), • where it can run back to the oceans, be absorbed by plants or remain in the ground.
Explain how water from the land is transported into plants and animals.	• Water absorbed into the soil can be absorbed by plants through their roots, • allowing the plants to grow (by photosynthesis). • These plants are harvested and eaten or used to feed animals which can then be eaten.
Explain how water on or in the land is transported into our drinks, such as the milk in your cereal or carbonated drinks.	• Water is extracted from underground (ground water) or above ground (eg reservoirs and lakes). • The water is treated to make it safe to drink (make potable water). • The water is then piped to our homes or to factories for making drinks (eg carbonated drinks, alcoholic drinks). • Some water is drunk by animals which produce other drinks, such as milk.